Developing Health Finance Indicators for the States of the Former Soviet Union

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Introduction

Health care systems in most of countries of Central and Eastern Europe (CCEE) are undergoing reforms. This places new requirements to health−related data, particularly health finance indicators. They are needed to track health costs and also the structure of health care provision.

There is an evidence of the growing interest in collecting finance data in this group of countries. There is also some interest of international health organizations and donors in collecting this information with the view of identifying the actual level and structure of health funding, and also making international comparisons possible.

This paper is aimed at developing health finance indicators and definitions for CCEE. The focus is on the former Soviet Union or the New Independent States (NIS). This is a homogeneous group of countries in terms of the similar issues of health finance data collection, most of which have been inherited from the previous times. It is likely that the proposed scheme and procedures of finance data collection may apply to other CCEE.

Using OECD definitions, the paper is designed to develop a set of guidelines to adapt and transform locally collected data as much as possible to this classification. These guidelines should help in future exercises to collect this information in some of NIS.

The first section addresses the major issues of health finance data collection in NIS − the current status of financial statistics, potential areas of their use, the strategy for data collection. The second section is an attempt to construct consistent system of health finance accounts. The third section is focused on the definitions of indicators and potential sources of data.

The issues of health finance data collection in NIS

The objectives of health finance data development

The general aim of developing health finance indicators is to represent the health sector in the national economy. They are designed to understand movement of the aggregate health economy and can serve as a data base for the analyses of the role of health sector, its structure and the causal factors at work. In more specific terms, these indicators are needed for identifying the following major relationships:

- The place of health sector in the national economy. This can be identified in terms of health care expenditures as a proportion of gross domestic product. The indicator represents the amount a nation chooses to spend on health care relative to its productive capacity. It serves as a base for judgments on the value society places on health.

- Health revenue by various sources of funds. Health finance indicators bring into focus the share of public and private health finance, and also the structure of public finance by different sources – general state budget revenue and social health insurance contributions. This allows the analyses of the relative resources that should be spent from different sources.

- Expenditure on the various types of health services. These indicators demonstrate the structure of the health care system and allow to identify structural distortions. This can serve as a basis for developing health policy in more specific terms of utilization targets and costs. Consideration of the entire matrix of expenditure over time permits evaluation of policy intended to curb or redirect growth in the health care sector. Because we observe the system as a whole, it is possible to detect substitutions or countervailing effects in other services or funding sources. For example, controls on expansion of the hospital inpatient services can spur the growth of outpatient care.

- Projections. Historical trends provide a basis for projections of expenditure to the future. These future estimates incorporate assumptions about demographic and economic changes, as well as inflation rates and other variables. By projecting the likely consequences of current trends, these models alert us to undesirable outcomes and alternative policies to avoid them.

The current status of financial statistics

Health finance accounts do not exist in NIS and presumably in most of other CCEE. The financial data is very fragmented and inconsistent. Official agencies do not publish aggregate health finance data. It is very difficult to estimate total public and private health expenditures from the available sources of statistics. Depending on the assumption and approaches used by different data collectors, the percentage of health care expenditures in GDP varies substantially, for example in Russia – from 1.8 to 4.5 per cent.

The poor status of financial data can be attributed to the following factors:

The Ministry of Health in any NIS does not collect financial data. Traditionally this Ministry has collected only health and utilization statistics. Its contribution to developing health finance indicators has been close to zero. This is the responsibility of the Ministry of Finance. However, this Ministry does not go deeply into the structural issues of the health sector, and therefore does not collect detailed data on health expenditure.

The lack of coordination of different governmental agencies. In some countries a transition to mandatory health insurance (MHI) systems is currently underway, for example in Russia, Czech republic, Hungary, Estonia, Latvia, Kazakhstan. Other CCEE/NIS are considering a transition to MHI. This process, along with development of private sector, has aggravated the situation in financial data collection. Diversification of the sources of health revenue requires integration of financial data on each of these sources. This is not the case in NIS. For example, in Russia MHI contributions data is collected by the Federal MHI Health

Insurance Fund, general budget allocations — by the Ministry of Finance, private out—of—pocket expenditures — by the Central Statistical Committee, private health insurance statistics — by private insurance agencies. Each actor has its own interest in collecting data. In addition, they do not coordinate with each other.

The absence of the framework for health finance statistics collection. The system of health finance accounts, currently in place in OECD, is not available in NIS. This makes data collection and coordination of different health related agencies particularly difficult.

The lack of access to financial data on "the parallel" health system. Traditionally most of CCEE have developed a network of medical facilities for the use by the staff of some privileged Ministries and governmental agencies. Ministries of Defense, internal and foreign affairs and many other influential agencies used to have their own polyclinic and hospital. They are not committed to report on health revenue and expenditure. Same holds true for big enterprises. Some of them have big medical networks ("medsanchast") for the use by employees. The information on their funding is not made public. The estimates of the size of this "parallel" sector in the former Soviet Union range from 10 to 30 per cent of total public health expenditure.

The strategy for financial data collection

To overcome the above obstacles, institutional changes are needed. The following steps are to be made:

1. To develop health finance accounts (HFA)which will serve as a framework for collection of data by different agencies and also for coordination of their activity.

2. To develop new statistical formats for data collection for each agency involved in this process. These formats must be authorized by the Government.

3. The regulatory acts are to be passed to ensure an open access to health finance data, including to the data collected by law enforcement ministries, governmental agencies and big enterprises.

4. To set up a statistical group responsible for coordinating data collection by different agencies. It is preferrable to be an integral unit of the Ministry of Health, as the agency which is mostly interested in tracking financial flows in the health sector.

5. To authorize the rights and responsibilities of this group by the governmental regulation.

Establishing the system of HFA should be phased out.

Stage 1. To base the framework for data collection on the financial data available. Indicators are to be developed with the focus on structuring the fragmented financial data.

Stage 2. To develop and to introduce new statistical formats which will allow the collection of more detailed data on health revenue and expenditure similar to those currently used by OECD. The examples of more detailed data are: expenditure on different types o care by sources of finance (public and private), expenditure on acute and long−term inpatient care, detailed price deflators for medical services. These and some other data currently is not collected.

The following sections are focused on the first stage. We make an attempt to develop a realistic framework for data collection. Most of indicators can be obtained from the capacity available. But this requires special and time consuming activity of the group of data collectors with substantial rights ant responsibilities approved by the governmental decision.

Health finance accounts

Health finance indicators must be consistent with each other, and also with resource utilization indicators. To achieve this consistency, the following system of HFA is proposed. It is based on the data either currently available in NIS or those which can be collected additionally. This is the major criteria for constructing HFA for NIS and probably for other Eastern and Central European countries. Another criteria is to make it as close to the OECD health accounts as possible to make comparisons of health finance possible.

The system of health finance indicators consists of seven major accounts:

1. Aggregate health care revenue

Public

1.1 Direct state budget allocations to the health sector

1.2 State subsidies to mandatory health insurance system (MHI)

1.3. Mandatory health insurance contributions by:
- employers
- employees

1.4. Direct health expenditure of employers for running industrial medical facilities

1.5. Direct health expenditure of ministries and governmental agencies

1.6. Charity health expenditure

1.7. Foreign assistants (loans/grants)

1.8. Outstanding debt by the end of the year

Private

1.9. Private health insurance

1.10. Direct private health charges

The first account is needed to estimate total health expenditures by combining data for all sources of finance, including those which are currently ignored in data collection. This implies: i) aggregating state budget allocations and social health insurance contributions; ii) the evaluation of health expenditure incurred by employers, ministries and other governmental agencies for their employees; iii) combining public and private sources of finance.

Health finance accounts should be built up so that to reflect current and potential changes in the systems. This implies that MHI contributions should be incorporated in the aggregate health finance revenue. It is also important to ensure that funding from general budget revenue and MHI contributions will not overlap

Great underfunding and unpredictability of state budget allocations in NIS are the reasons for the lack of resources to cover the expenditure of medical facilities. At the end of the year they may have a big debt for utilities, food or drugs (in some regions of Russia the debt is close to 10% of total public funding). This debt should be accounted for the estimate of health expenditures in the following year (it should be reduced by the amount of outstanding debt).

The aggregate health care revenue can be used for many analytical purposes and decision making in health policy. This indicator is critical in the evaluation of the role of health sector in the economy. Presumably, the share of health expenditure in GDP will be higher than the current estimates for NIS. The trend is not clear. In addition, the interactions between different sources of finance can be determined, for example, between MHI contributions and general budget revenue. The role of the "parallel" health system can be determined with the view of avoiding traditional overlapping of the state and industrial health systems.

2. Public health revenue by levels of funding

2.1. State budget health expenditure (the sum of **1.1** and **1.2**.)

2.1.1. Central (federal) budget health expenditure

2.1.1.1. Subsidies to the regions from the central budget

2.1.2. Regional (oblast) budget health expenditure

2.1.3. Local (municipal) budget health expenditure

2.2. MHI contributions (**1.3.**)

2.2.1. Contributions by employers and employees to the central (federal) MHI fund

2.2.1.1. Subsidies to the regions from the central MHI fund

2.2.2. Contributions by employers and employees to the regional (oblast) MHI funds

This account specifies the interaction between different levels of health finance −central, regional and local. In tax−financed systems this is relevant only for general budget revenue, in the countries with an emerging MHI system health insurance contributions must also be determined for each level of funding. Since MHI systems are relatively centralized, MHI contributions are not collected at the local (municipal level). This account also specifies financial flows between central and regional budgets. For the purpose of simplicity financial flows from regional budgets to local areas are not included.

The account is needed to determine the degree of centralization or decentralization of health finance. It is also designed to ensure the consistency between data on each level of funding.

3. Public health expenditure by categories of expenditures

3.1. Current expenditure

3.2. Capital expenditure

3.2.1. Construction of medical facilities

3.2.2. Purchasing medical equipment

3.2.3. Purchasing vehicles

3.2.4. Capital renovation

This account breaks down aggregate expenditure into current and capital outlays. It is designed to identify the relative movement of these outlays. This and further accounts refer to public expenditure only and financed mostly from state budget. Industry and private expenditure by categories are also desirable, but it is practically impossible to obtain the data.

4. Public health expenditure by items of costs

4.1. Wages and salaries

4.2. Fringe benefits for employees

4.3. Utilities and support services

4.4. Food

4.5. Pharmaceuticals and medical supplies

4.6. Medical equipment and instruments

4.7. New construction

4.8. Capital repair works

4.9. Other items of expenditure

This refers to the distribution of health expenditures across detailed costs items. The account is designed to monitor the structure of costs.

The items of costs are given according to the standard classification currently used in NIS. In Russia new classification is to be effective in 1996. It is not considered here.

This account does not completely consistent with **3.1** and **3.2** because, according to the current classification, it combines both current and capital outlays.

5. Public health expenditure by functions

5.1. Public health expenditure on inpatient care

5.2. Public health expenditure on outpatient care

5.3 Public expenditure on public health

5.4. Public expenditure on health administration

5.5. Public expenditure on education of health personnel

5.6. Public expenditure on biomedical research and development

5.7. Other public expenditure

This account is to determine the internal functional structure of health expenditure. It can easily be transformed to explore the structure of *medical care* expenditure (items **5.1** and **5.2**) with exclusion of public health and health related expenditure. This can be done by subtracting **5.4, 5.5 ,5.6** and **5.7** from total public health expenditures by functions (**5**).

Another possibility to deepen the analyses of health care structure is to include private expenditure. In practical terms, this can be done only for pharmaceuticals and medical supplies (see **1.10**), but not for inpatient and outpatient care. The desegregated data on private expenditure on inpatient and outpatient care is not available in the current statistics in NIS.

6. Price indices for health expenditure (deflators)

6.1. Price deflator for medical services

6.2. Price deflator for medical goods.

6.3. Price deflator for aggregate health expenditure

7. Average salary in the health sector

7.1. Average for all industries

7.2. Average for the health sector

7.3. Average for physicians

7.4. Average for nurses

7.5. Average for junior medical and other staff

Definitions of indicators.

1.1 Direct state budget allocations to the health sector

This comprises all health expenditure of central (federal), regional and local governments. In the current statistical forms in NIS this information is normally published as the element of the broader category of "health, physical culture, sports and social services". Although non−health component of this grouping is not substantial, it is recommended to estimate expenditure only for the health sector. This information is collected by Ministries of Finance but is not published. Thus an access to the data is needed.

Direct state budget allocations to the health sector comprise:

a) government−supplied medical care including inpatient and outpatient care, medicine and other pharmaceutical products, medical appliances, ambulance services as well as health services in schools, public health programs such as vaccination campaigns, services for the specific population groups, etc. (see **5.3**);

b) investment in hospitals, polyclinics, etc.(**3.2**.);

c) administration costs(**5.4**);

d) biomedical research and development(**5.6**);

e) education and retraining of medical personnel(**5.5**).

1.2. State subsidies to mandatory health insurance system.

These subsidies are usually designed to cover health expenditure for the specified groups of population. In NIS this refers to all non−working population. The data on governmental subsidies are collected by MHI funds and can be easily obtained from their annual reports.

1.3 MHI contributions.

In all NIS with the emerging MHI systems contributions are made by employers, but in some Central European countries (e.g.Czech republic) employees are also paying for the health insurance. In NIS the data is collected by MHI funds. The information on private health insurance premiums is collected separately.

1.4 Direct health expenditure of employers for running industrial medical facilities.

This information is very fragmented and normally not published. The potential source of this information is the Ministry of Finance. It is usually collected by the industrial units rather than health unit of this Ministry. The governmental decision on the responsibility of the Ministry of Finance for making this information public is needed. At the current stage, the data on health expenditure for the biggest enterprises can be requested.

It is worth mentioning that the size of industrial health care is decreasing in NIS because enterprises can not afford to operate their medical facilities. The latter are increasingly open for the population and funded by local governments and/or MHI funds. This makes data collection on industrial health less relevant.

1.5 Direct health expenditure of ministries and governmental agencies.

This information is collected by the ministries and governmental agencies such as Ministries of Defense, Internal Affairs, Foreign Affairs, etc. It can hardly be obtained from the Ministry of Finance. The only source of this information is the health department of the corresponding ministries and agencies. The access to this information requires the governmental regulation. At the moment it is unrealistic to expect that this data can be collected.

1.6 Charity health expenditure

This source of health revenues usually takes the form of purchasing medical equipment, repair works and other charity payments to medical facilities both in cash and in kind. These payments are at least partly reflected in bookkeeping at the level of medical facilities. A special statistical format is needed for aggregating charity health expenditure. Same holds true for foreign assistance in the form of loans and grants (**1.7**). At the moment it is unrealistic to expect that this data can be collected.

1.9 Private health insurance

This is the revenue from premiums for voluntary health insurance plans (both individual and group plans). This information is normally collected by the central state insurance agency responsible for licensing and supervision of private health insurance. For example, in Russia this is the responsibility of the State insurance supervision agency ("Gosstrahnadzor"). In other countries this may be responsibility of the Ministry of Finance.

It is important to make sure that private (voluntary) health insurance premiums are accounted separately from public (mandatory) health insurance revenue controlled by private insurers (in case the legislation allows this control).

1.10 Direct private health charges

Private health expenditure can be defined as household final consumption on medical care and health expenses including goods and services purchased at the consumers own initiative.

This does not include informal payments to health providers. They may play a substantial role in health funding in some countries. However, the objective of health finance accounts is to evaluate the role of health sector in the formal economy. In addition, these"under−the−table" payments are difficult to measure.

There are three major components of direct private health expenditure:

– payments by private patients for the services which are not covered by MHI or national health systems;
– the cost−sharing part of publicly−financed or supplied care;
– non−prescription or over−the−counter medicines and medical appliances (e.g. optical equipment, hearing devices, wheelchairs).

The data on the first component in NIS is collected by State Statistical Committees. The expenditure does not include value added tax.

At the moment the formal cost−sharing part of publicly−financed and supplied care is negligible and can be ignored. But there is a tendency to reconsider public health system's commitments and to limit the package of medical benefits by introducing the elements of cost−sharing, for example, for hotel services, food, etc. To the best of our knowledge, this tendency has not become effective in any NIS but might be relevant for some Central European countries (Hungary, Czech republic).

The non−prescription or over−the counter medicines and medical appliances have not been accounted as the component of aggregate health expenditure in NIS. Only publicly−financed and supplied medicines are currently evaluated as part of inpatient and outpatient care expenditure. Thus this is the challenge for potential data collectors to evaluate this component.

The basis for this estimate is the data on retail sales. The reimbursement from public sources is to be determined. This includes the cost of pharmaceuticals and medical appliances consumed in hospitals (**4.5** for hospitals), and also payments to pharmacies made by polyclinics for groups of beneficiaries (veterans, disabled, etc.) who are entitled to free medical goods or pay the specified portion of their cost (**4.5** for outpatient care settings). The private expenditure on medical goods is the difference between retail sales and the cost of publicly−financed medical goods. In Russia, for example, private expenditure amounts to more than half of retail sales of pharmaceuticals and medical appliances.

1.8. The outstanding debt of health sector by the end of the year

The information on outstanding debt is evaluated by regional health authorities. At the central level this information is not available. Thus this item of financial resources can be estimated only for regions.

2. Public health revenue by levels of funding.

2.1. State budget health expenditure.

This is the sum of central, regional and local expenditure. In most of NIS the systems are highly decentralized: most of funding is raised at regional and local levels. However, some regions receive subsidies from the central (federal) budget. The data for regions is collected and consolidated by the central Ministry of Finance. The data on federal subsidies to the regions (2.1.1) can hardly be obtained.

2.2 Mandatory health insurance contributions.

This is the sum of central and regional MHI contributions. The former includes subsidies to the regions from the central MHI fund for equalization of financial resources.

This indicator does not include state subsidies to MHI for non−working population (**1.2**).

The data is made public and can be used for the analyses of financial resources across regions.

3. Public health expenditure by categories of expenditures.

3.1 Public capital health expenditure.

This includes not only costs of new construction and capital repair works (the prevailing approach currently used in NIS) but also expenditure on medical equipment and vehicles which are now accounted as the item of current expenditure. The latter can be obtained from **4.6, 4.7,** and **4.8**.

3.2 Public current health expenditure.

This is the difference between total public health expenditure by items of costs (**4)** and the sum of **4.6, 4.7,** and **4.8**.

4. Public health expenditure by items of costs.

4.1 Wages and salaries.

Includes bonuses to the fixed rates wages and salaries, and also overtime payment to employees.

4.5. Pharmaceuticals and medical supplies.

For polyclinics this includes payments to pharmacies for beneficiaries who are entitled to free pharmaceutical and medical supplies or have their expenses partially reimbursed from public sources (veterans, disabled, etc.) For hospitals this is the cost of pharmaceuticals and medical supplies consumed in the course of inpatient care provision.

4.8 Capital repair works.

This refers to premises only. The costs of repair of equipment and vehicle are accounted in **4.3**.

5. Public health expenditure by functions

Only medical benefits are included; compensation for lost wages, allowances for disablement and funeral benefits are classified as income maintenance expenditures.

5.1 Public health expenditure for inpatient care.

Comprises public expenditure on for acute, chronic and convalescent care. All types are included: general hospitals, special hospitals such as extended care, oncological, mental, tuberculosis hospitals (sanatoriums). In NIS there is no formal distinction between acute and long−term inpatient settings, therefore it is hard to evaluate expenditure on acute and long−term care as it is done in most of OECD countries. But in principle, this kind of analysis is possible at further stages of finance data development. This can be done by desegregating inpatient care expenditure across different types of hospitals (data can be obtained from Ministries of Finance).

The major problem of the evaluation of inpatient care expenditure is that many hospitals in NIS have been set up as an integrated facility combining both inpatient care setting and polyclinic. This is particularly true for the industrial medicine. A share of outpatient care expenditure in such integrated hospitals varies substantially (from 10 to 50%). This data is not collected even at the regional level. Therefore, the evaluation of inpatient care expenditures requires in−depth analysis of expenditure pattern across integrated hospitals with final

average estimate for the entire country. This percentage can be applied for all integrated hospitals.

The problem of breaking down hospital expenditure extends to the evaluation of costs in day care centers, day surgeries and other alternatives to costly inpatient care. But this sector is negligible in NIS, thus it can be regarded as the element of inpatient care expenditure, if the services are provided in hospitals.

5.2 Public expenditure on outpatient care.

In OECD statistics this is the sum of outlays on physician services (including osteopaths), dental services, other professional services (such as physiotherapist, optometrist, etc.), pathology tests and laboratory services, radiology and diagnostic imaging and also pharmaceutical goods and medical appliances purchased in ambulatory care. The latter includes publicly−financed share of prescriptions and self−medication.

In NIS most of outpatient care is provided by polyclinics and also in so called "ambulatories" and "feldshar stations" (small clinics mostly in rural area). Therefore, all the above items (except for pharmaceuticals and medical appliances) are included in the cost of care provided by these settings. Their breakdown is impossible.

Pharmaceuticals and medical appliances in ambulatory care should also be included. Directions for this see item **1.10.**

Free−standing emergency stations can be regarded as the element of outpatient care or public health expenditure at the discretion of data collectors. The data on emergency stations costs can be obtained from Ministries of Finance.

5.3 Public health expenditures

Includes health−related expenditures incurred by state health authorities in addition to medical care expenditures such as:

- centers of "sanitary−epidemiological surveillance"
- desinfection centers
- centers of health training and promotion
- child homes
- blood transfusion stations
- other health−related activity

5.4 Public expenditure on health administration.

Expenditure incurred by central and local health authorities and MHI structures for exercising management and administration functions. The data on administration costs of health authorities is limited to expenditure on "central bookkeeping office". Thus the administration costs can not be fully accounted.

In Russia the data on MHI administration costs is collected and can be obtained from the Federal MHI Fund. Presumably this holds true for other countries with the emerging MHI model.

5.5 Public expenditure on education of health personnel.

This information is normally collected by Ministries of Health.

5.6 Public expenditure on biomedical research and development.

Excludes outlays by pharmaceutical firms. This information is normally collected by Ministries of Health.

6. Price indices for health expenditure (deflators).

It is unrealistic to expect that in NIS each item of health expenditure can be deflated by the specific price index, as it is done in some OECD countries. These indices are not available. Moreover, the aggregate price index for medical services and goods is also unavailable, although attempts are being made to construct it. Thus all above health expenditure indicators are to be deflated by GDP deflator or price deflator for general government consumption wherever available. This approach is most likely to overestimate the actual rate of growth of health expenditure in real terms, because prices of medical goods and services in NIS seem to grow at higher rate than GDP deflator.

Conclusions

The status of health finance data collection does not allow to make detailed comparisons with OECD countries. Substantial institutional changes are needed to construct a comparable health finance data base. Designing a simplified but consistent system of health finance accounts can be regarded as the first step to developing this data base. It should be based on the data currently available. However, even a phased out approach requires substantial changes in the roles and responsibilities of different governmental agencies in health finance data collection.

This means that international organizations involved in health data collection will have to do a lot of preparatory work before contracting data collectors in Central Asia or some other countries of this Region. The contacts with local Ministries of Finance and Health must be close enough to explain potential collectors the scope of their task and also to ensure an access to health finance data.